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MAR 29 2005



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**FACSIMILE TRANSMISSION**

DATE: March 29, 2005  
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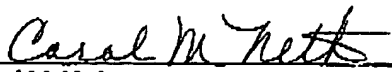
FROM: Carol M. Neth  
Paralegal, IP Group  
RE: Customer No. 04249  
Application No.: 10/645,429  
Filed: August 21, 2003  
Examiner: Ebenezer O. Sackey  
Group Art Unit: 1626  
Attorney Docket: 37241-01

Attached are the following documents:

One Month Extension of Time  
Response to Office Action dated December 2, 2004  
Credit Card Form PTO-2038

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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MAR 29 2005

APPLICANT(S): ROBERT P. HEPPER, CRAIG ) PATENT APPLICATION  
T. MILLER, GREGORY A. ) Confirmation No. 8069  
NORENBERG, THOMAS G. )  
ATTIG, JOHN R. BUDGE )  
APPLICATION NO.: 10/645,429 ) Group Art Unit: 1626  
FILED: August 21, 2003 ) Examiner:  
Ebenezer O. Sackey  
FOR: TWO-STAGE PROCESS FOR THE )  
HYDROGENATION OF MALEIC ACID ) Attorney Docket No.:  
TO 1,4-BUTANEDIOL ) 37,241-01

RESPONSE

Attention: Group Art Unit 1626  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is in response to the office action mailed December 2, 2004, for which a one-month extension of time to respond is respectfully requested.

REMARKS

The present invention relates to a process for the hydrogenation of maleic acid to 1,4-butanediol (BDO), gamma-butyrolactone (GBL) and/or tetrahydrofuran (THF). This reaction proceeds in two steps. The maleic anhydride is first hydrogenated to succinic acid. The succinic acid is then hydrogenated to BDO, GBL and/or THF. These reactions will proceed over a wide range of temperatures and prior art reaction temperatures above 150°C were typical.

In the practice of this process, the internals of the reaction vessels, piping and equipment are in contact with maleic acid. Corrosion of process equipment is an issue. Corrosive conditions shorten the expected life of process equipment (e.g. hydrogenation